

**WHAT IS CLAIMED IS:**

- 5     1. Polyamide molding compositions having lowered melt viscosities comprising, in weight percent, about
  - (a) 25 to 90% of a polyamide or polyamide blend;
  - (b) 5 to 60% of an inorganic filler or reinforcing agent;
  - 10    (c) about 0.1 to 10% of non-melt-processible fluoropolymer particles having an SSG of less than about 2.225, said fluoropolymer particles comprising a core of high molecular weight polytetrafluoroethylene and a shell of lower molecular weight polytetrafluoroethylene or modified polytetrafluoroethylene;
  - 15    (d) 5 to 35% of a flame-retarding additive containing 50-70% bromine or chlorine; and
  - (e) 1 to 10% of a flame retardant synergist.
- 20    2. The composition of Claim 1 wherein the synergist is selected from antimony trioxide, antimony pentoxide, sodium antimonate, and zinc borate.
3. The composition of Claim 1 further comprising up to 2 weight percent of a mold release agent.
- 25    4. The composition of Claim 1 further comprising up to 2 weight percent of a heat or UV stabilizer.
5. An article formed from the composition of Claim 1.
- 30    6. The polyamide molding composition of claim 1 wherein the non-melt-processible fluoropolymer particles (c) are produced by a batch process comprising polymerizing tetrafluoroethylene in an aqueous medium in the presence a dispersing agent to produce fluoropolymer having an SSG of less than about 2.225, said polymerizing being carried out in a first stage during which a first amount of free radical initiator is added and a second stage during which a second amount of free radical initiator and a telogenic agent are added, said first amount of initiator producing polytetrafluoroethylene having an average melt creep viscosity greater than about 1.2

$\times 10^{10}$  Pa·s, and said second amount of initiator being at least about 10 times said first amount and being added before about 95% of the total tetrafluoroethylene has been polymerized, said second amount of initiator producing polytetrafluoroethylene or modified polytetrafluoroethylene.

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7. The composition of claim 6 wherein in said process said first amount of initiator produces polytetrafluoroethylene having an average melt creep viscosity greater than about  $1.3 \times 10^{10}$  Pa·s.

10 8. The composition of claim 6 wherein in said process said first amount of initiator produces polytetrafluoroethylene having an average melt creep viscosity greater than about  $1.5 \times 10^{10}$  Pa·s.

15 9. The composition of claim 6 wherein in said process said first amount of initiator produces polytetrafluoroethylene having an average melt creep viscosity of greater than about  $1.0 \times 10^{10}$  Pa·s before about 30% of the total tetrafluoroethylene has been polymerized.

20 10. The composition of claim 6 wherein in said process said second amount of initiator produces polytetrafluoroethylene or modified polytetrafluoroethylene having an average melt creep viscosity greater than about  $9 \times 10^9$  Pa·s and less than the average melt creep viscosity of the polytetrafluoroethylene of said core.

25 11. The composition of claim 6 wherein in said process said second amount of initiator produces polytetrafluoroethylene or modified polytetrafluoroethylene having an average melt creep viscosity at least  $0.1 \times 10^{10}$  Pa·s less than the average melt creep viscosity of the polytetrafluoroethylene produced during said first stage.

30 12. The composition of claim 6 wherein in said process said second amount of initiator produces polytetrafluoroethylene or modified polytetrafluoroethylene having an average melt creep viscosity at least  $0.2 \times 10^{10}$  Pa·s less than the average melt creep viscosity of the polytetrafluoroethylene produced during said first stage.

35 13. The composition of claim 6 wherein in said process said second amount of initiator produces polytetrafluoroethylene or modified polytetrafluoroethylene having an average melt creep viscosity about  $9 \times 10^9$  Pa·s to about  $1.3 \times 10^{10}$  Pa·s.

14. The composition of claim 6 wherein in said process said second amount of initiator and said telogenic agent are added when at least about 70% of the total tetrafluoroethylene has been polymerized.

5 15. The composition of claim 1 wherein the average melt creep viscosity of the polytetrafluoroethylene of said core of said fluoropolymer particles (c) is greater than about  $1.2 \times 10^{10}$  Pa·s.

10 16. The composition of claim 1 wherein the average melt creep viscosity of the polytetrafluoroethylene of said core of said fluoropolymer particles (c) is greater than about  $1.3 \times 10^{10}$  Pa·s.

15 17. The composition of claim 1 wherein the average melt creep viscosity of the polytetrafluoroethylene of said core of said fluoropolymer particles (c) is greater than about  $1.5 \times 10^{10}$  Pa·s.

20 18. The composition of claim 1 wherein in said fluoropolymer particles (c) the average melt creep viscosity of the polytetrafluoroethylene or modified polytetrafluoroethylene of said shell is greater than about  $9 \times 10^9$  Pa·s and less than the average melt creep viscosity of polytetrafluoroethylene of said core.

25 19. The composition of claim 1 wherein in said fluoropolymer particles (c) the average melt creep viscosity of the polytetrafluoroethylene or modified polytetrafluoroethylene of said shell is at least  $0.1 \times 10^{10}$  Pa·s less than the average melt creep viscosity of polytetrafluoroethylene of said core.

30 20. The composition of claim 1 wherein in said fluoropolymer particles (c) the average melt creep viscosity of the polytetrafluoroethylene or modified polytetrafluoroethylene of said shell is at least  $0.2 \times 10^{10}$  Pa·s less than the average melt creep viscosity of polytetrafluoroethylene of said core.

21. The composition of claim 1 wherein the average melt creep viscosity of the polytetrafluoroethylene or modified polytetrafluoroethylene of said shell of said fluoropolymer particles (c) is about  $9 \times 10^9$  Pa·s to about  $1.3 \times 10^{10}$  Pa·s.

35 22. The composition of claim 1 wherein said shell of said fluoropolymer particles (c) comprises about 5 to about 30% by weight of said fluoropolymer particles.

23. The composition of claim 1 wherein the fluoropolymer particles (c) are fibrillating.

24. The composition of claim 1 wherein said shell of said fluoropolymer particles (c)  
5 is polytetrafluoroethylene.

25. The composition of claim 1 wherein said fluoropolymer particles (c) have a melt  
creep viscosity of greater than about  $1.4 \times 10^{10}$  Pa·s.